Appl. No. 09/889,574

Response dated January 8, 2007

Reply to Office Action of September 11, 2006

**AMENDMENT TO THE CLAIMS:** 

In response to the Office Action dated September 11, 2006, please amend the

application as follows:

Claim 1. (Currently Amended) A permeable membrane diaphragm of different layers for

electrolytic cell, comprising:

A a flow-controlling permeable layer, which comprises a thin liquid permeable micro-

porous membrane or several thinner similar membranes made of fluoro-containing polymers;

wherein the flow-controlling permeable This layer is mounted toward the anode;

A a diffusion-restricting permeable layer, which comprises a thick permeable perforate

film, sheet or cloth, or several thinner similar films, sheets or cloths made of anti-corrosive

materials which are different from those of the flow-controlling permeable layer; wherein

The the mean pore diameter of this the diffusion-restricting permeable layer is at least 5

times larger than that of the flow-controlling permeable layer, and the thickness of this the

diffusion-restricting permeable layer is at least 1 times larger than that of the flow-controlling

permeable layer; This wherein the diffusion-restricting permeable layer is mounted toward

the cathode;

Optionally optionally a protective layer, which comprises one or more liquid

permeable film, sheet or cloth made of anti-corrosive materials; This wherein the protective

layer covers the micro-porous membrane of the flow-controlling permeable layer to protect

it; and

Optionally optionally a fluid impermeable frame made of anti-corrosive material;

This wherein the fluid impermeable frame is around the above-said layers.

Claim 2. (Currently Amended) The permeable membrane diaphragm of different layers

for electrolytic cell of claim 1, wherein the flow-controlling permeable layer comprises

one or more microporous membranes made from hydrophilized polytetrafluoroethylene;

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wherein The the mean pore diameter of this the flow-controlling permeable layer is in the range of  $0.1-2.0 \mu m$  and the thickness of this the flow-controlling permeable layer is in the range of 0.03-0.2mm.

Claim 3. (original) The permeable membrane diaphragm of different layers for electrolytic cell of claim 1 or 2, wherein the flow-controlling permeable layer has a mean pore diameter of 0.1-0.5 µm and a thickness of 0.07-0.1 mm.

Claim 4. (original) The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the matrix of the diffusion-restricting permeable layer is selected from the group consisting of polypropylene, chlorinated polyvinyl chloride, polyoxymethylene, polyamide, polytetrafluoroethylene and synthetic rubber.

Claim 5. (original) The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the matrix of the diffusion-restricting permeable layer is polypropylene.

Claim 6. (original) The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the diffusion-restricting layer has a mean pore diameter of 5-50 µm and a thickness of 0.3-2mm.

Claim 7. (original) The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the diffusion-restricting layer has a mean pore diameter of  $10\text{-}20~\mu m$  and a thickness of 0.8-1.2mm.

Claim 8. (original) The permeable membrane diaphragm of different layers for electrolytic cell of claim 1, wherein the membranes are combined together by means of adhesive, hot pressing or just by simply superposing.

Claim 9. (Canceled)